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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/019,460

Applicant(s)

TUYLS ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.2a) ☐ This action is **FINAL**.2b) ☒ This action is non-final.3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.**Disposition of Claims**4) ☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.6) ☒ Claim(s) 1-3,5,9 and 10 is/are rejected.7) ☒ Claim(s) 4 and 6-8 is/are objected to.8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.**Application Papers**9) ☒ The specification is objected to by the Examiner.10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. §§ 119 and 120**13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).a) ☐ All b) ☐ Some \* c) ☒ None of:1. ☐ Certified copies of the priority documents have been received.2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).a) ☐ The translation of the foreign language provisional application has been received.15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.**Attachment(s)**1) ☒ Notice of References Cited (PTO-892)2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.5) ☐ Notice of Informal Patent Application (PTO-152)6) ☐ Other: \_\_\_\_\_.

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an applications filed in European patent office on 04/27/200, and on 03/06/2001. It is noted, however, that applicant has not filed a copy of the 00201507, 01200839 application as required by 35 U.S.C. 119(b).

### ***Specification***

The abstract of the disclosure is objected to because mention of "Fig 5" at the end is not required for abstract. Correction is required. See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.

- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 & 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Togane et al. (US 5138290).

Regarding claim 1, Togane discloses a deflection unit shown in Fig 1, for a cathode ray tube comprising line deflection coils (horizontal deflection coil 2), frame deflection coils (vertical deflection coil 5) surrounding the line deflection coils 2 and a yoke ring (ferrite core 4) having a permeability surrounding the frame deflection coil 5 (lines 42-58 of column 2), wherein the deflection unit comprises a magnetic material (separator 3, made of plastic and granular ceramic, lines 32-36 of column 3) present between the line deflection coil (2) and the frame deflection coil (5).

Though Togane doesn't explicitly disclose that the permeability of the yoke ring (made of ferrite core) is greater than that of the magnetic material (material of separator 3), however, it is within the teaching of Togane that the magnetic permeability of the

yoke ring (ferrite core has high magnetic permeability) is greater than the permeability of the magnetic material of separator 3 (the mixture of plastic and ceramic having permeability lower than ferrite core) by the inherent property of the materials used.

Regarding claim 2, Togane discloses void spaces (space between horizontal and vertical coils) and the void spaces are filled with magnetic material (separator 3, made of plastic and granular ceramic).

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Regarding claim 9, Togane discloses a cathode ray tube assembly (see Fig 1) comprising a deflection unit as claimed in claim 1 (see rejection of claim 1).

Regarding claim 10, Togane discloses a display apparatus (television picture tube) comprising a cathode ray tube of claim 9 (see rejection of claim 9). Though Togane is silent about control electronics coupled to receive video signal to the CRT and the deflection signal to the deflection unit in dependence of VS, these are inherent in TV picture tube, which displays video signal.

Claims 1-2, 5 & 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokita et al. (US 4749975).

Regarding claim 1, Tokita discloses a deflection unit shown in Fig 1, for a cathode ray tube comprising line deflection coils (horizontal deflection coil 22 of Fig 2), frame deflection coils (vertical deflection coil 25 of Fig 2) surrounding the line deflection coils and a yoke ring (ferrite core 24) having a permeability surrounding the frame deflection coil 25 (lines 62-68 of column 2), wherein the deflection unit comprises a magnetic material (ceramic layer 31 of Fig 5, line 56-58 of column 4) present between the line deflection coil (22) and the frame deflection coil (25).

Though Tokita doesn't explicitly disclose that the permeability of the yoke ring (made of ferrite core) is greater than that of the magnetic material (ceramic), however, it is within the teaching of Tokita that the magnetic permeability of the yoke ring (ferrite core has high magnetic permeability) is greater than the permeability of the magnetic material (ceramic having permeability lower than ferrite core) by the inherent properties of the materials used.

Regarding claim 2, Tokita discloses void spaces (space between horizontal and vertical coils) and the void spaces are filled with magnetic material (porous ceramic layer 31).

Regarding claim 5, Tokita discloses that the deflection unit further comprises a support (resin mold 23 of Fig 2 and Fig 5) for carrying both the frame and line coils (22 and 25) the support comprising magnetic material (resin, lines 57-58 of column 4).

Regarding claim 9, Tokita discloses a cathode ray tube assembly (see Fig 1) comprising a deflection unit as claimed in claim 1 (see rejection of claim 1).

Claims 1-3 & 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Luard et al. (US 6100779).

Regarding claim 1, Luard et al. disclose a deflection unit 20, shown in Fig 1, for a cathode ray tube comprising line deflection coils (horizontal deflection coil 17), frame deflection coils (vertical deflection coil 18) surrounding the line deflection coils and a yoke ring (22) having a permeability ( $\mu_r$ ) surrounding the frame deflection coil (18, lines 11-15 of column 4), wherein the deflection unit comprises a magnetic material having a

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magnetic permeability ( $\mu_1$ ) (coil support 15 made of synthetic or plastic material) is present between the line deflection coil (17) and the frame deflection coil (18).

Though Lurad doesn't explicitly disclose that the permeability of the yoke ring (made of soft magnetic material) is greater than that of the magnetic material (synthetic material), however, it is within the teaching of Luard that the magnetic permeability of the yoke ring 22 is greater than the permeability of the magnetic material (synthetic or plastic, having permeability lower than soft magnetic material) by the inherent property of the materials used.

Regarding claim 2, Luard discloses void spaces (space between horizontal and vertical coils) and the void spaces are filled with magnetic material (synthetic material of support 15).

Regarding claim 9, Luard discloses a cathode ray tube assembly (see Fig 1).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luard et al. as applied to claim 1.

Regarding claim 3, Luard discloses second void spaces between the frame deflection coil (18) and the yoke ring (see Fig 1) and third void spaces between wire strands of the frame deflection coil (18, see Fig 2), and the second void spaces are filled with a magnetic material (resin material coating 32) having a magnetic permeability ( $\mu_2$ ). Luard teaches synthetic material as the magnetic material having permeability ( $\mu_1$ ) and resin as the magnetic material having permeability ( $\mu_2$ ).

However, resin is a synthetic material. Thus, it is within the teaching of Luard that  $(\mu_2) = (\mu_1)$ , by the intrinsic property of the materials used.

***Allowable Subject Matter***

Claims 4, 6, & 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 4, 6-8, the prior art of record neither shows nor suggests a deflection unit having yoke ring comprises at least two part (claim 4), first part closer to the neck than second part or 3 parts (as in claim 8), wherein only the void spaces surrounded by the first part of the yoke ring are filled with the magnetic material, together with other cited limitations as in claims (6 & 7).

***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to



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applicant's disclosure : Sluterman et al. (US 6411027); Vink et al. (US 6373181);

habraken et al. (US 4431940); Knapen (US 5229738).

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.G

Karabi Guharay  
Patent Examiner  
Art Unit 2879

Joseph Williams  
Joseph Williams